

## Midterm exam for CPSC-386 Spring 2020

Write the code in PyCharm,  
and upload the .py file to \_\_\_\_\_.github.io

**(25 pts) Write the code or pseudo-code in Python for the Ship class**

```
class Ship:
    def __init__(self): pass
    def center_ship(self): pass
    def fire(self): pass
    def remove_lasers(self): pass
    def move(self): pass
    def draw(self): pass
    def update(self): pass
```

**(25 pts) Write the code or pseudo-code in Python for the Vector class**

```
class Vector:
    def __init__(self): pass
    def __repr__(self):
        return "Vector ({}, {})".format(self.x, self.y)
    def __add__(self, other): pass
    def __sub__(self, other): pass
    def __rmul__(self, k: float): pass
    def __mul__(self, k: float): pass
    def __truediv__(self, k: float): pass
    def __neg__(self): pass
    def __eq__(self): pass

@staticmethod
def test():
    # feel free to change the test code
    v = Vector(x=5, y=5)
    u = Vector(x=4, y=4)
    print('v is {}'.format(v))
    print('u is {}'.format(u))
    print('u plus v is {}'.format(u + v))
    print('u minus v is {}'.format(u - v))
    print('ku is {}'.format(3 * u))
    print('-u is {}'.format(-1 * u))

def main():
    Vector.test()
```